FIG.1

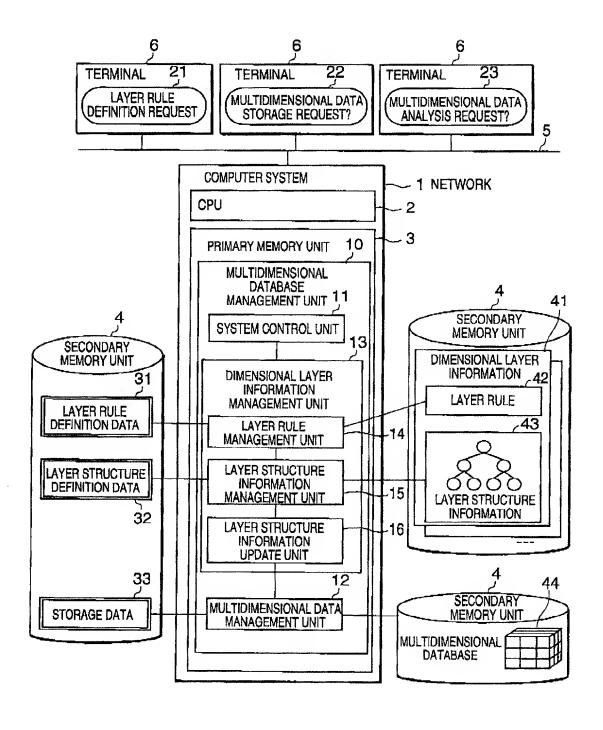


FIG.2

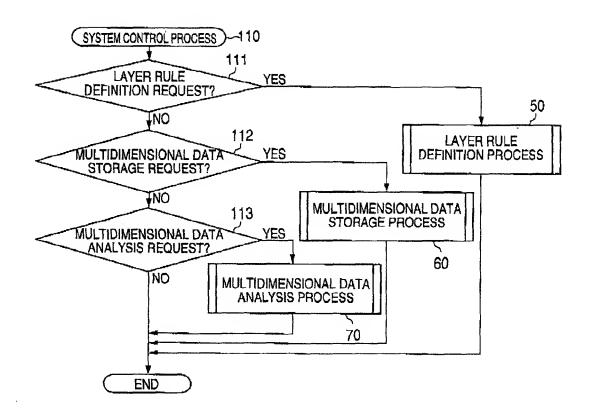


FIG.3

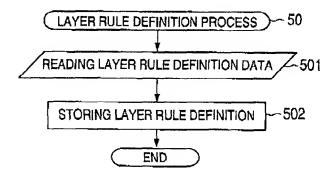


FIG.4

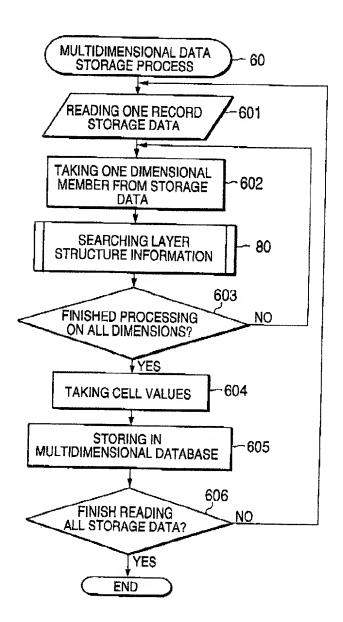


FIG.5

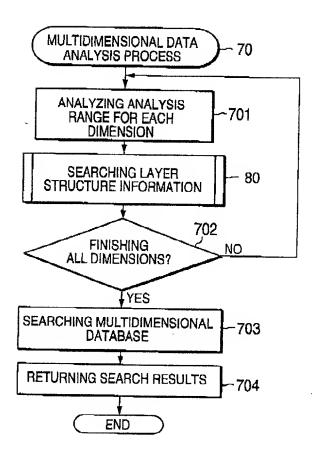


FIG.6

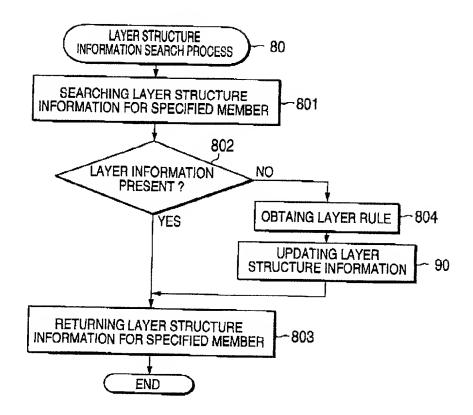
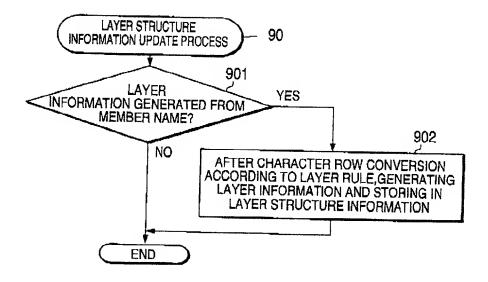


FIG.7



```
#LAYER RULE:
#AFTER CHARACTER ROW CONVERSION ON MEMBER, OBTAINING LAYER INFORMATION

FROM MEMBER NAME
LEVEL10=$ MEMBER NAME
LEVEL11={

$/\times(....\times)0[123]/\times1Q1/

$/\times(....\times)0[456]/\times1Q2/

$/\times(....\times)0[789]/\times1Q3/

$/\times(....\times)1[012]/\times1Q4/

]
LEVEL12={

$/\times(....\times)../\times1/

}

LEVEL12={

$/\times(....\times)../\times1/

}
```

FIG.9

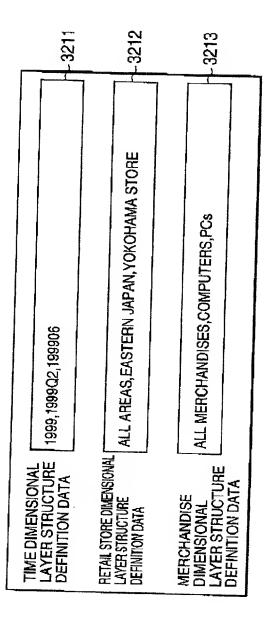
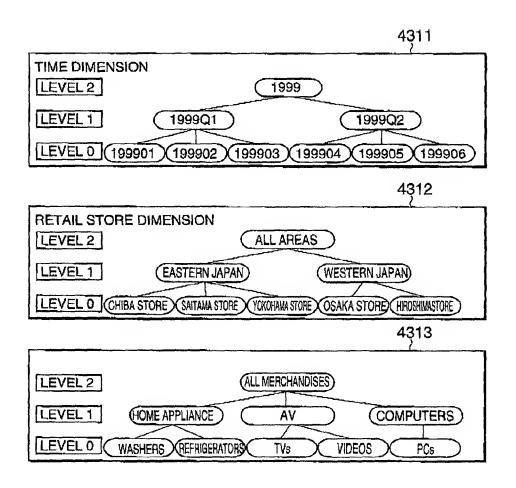


FIG.10



RETAIL STORE DIMENSIONAL LAYER RULE DEFINITION DATA

3120

#LAYER RULE:

#OBTAINING LAYER INFORMATION FROM CSV FORMATTED FILE

FROM FILE, CSV FILE

LEVELO=COLUMN 3

LEVEL1=COLUMN 2

LEVEL2=COLUMN 1

FIG.12

3126

ALL AREAS, EASTERN JAPAN, CHIBA STORE
ALL AREAS, EASTERN JAPAN, SAITAMA STORE
ALL AREAS, EASTERN JAPAN, YOKOHAMA STORE
ALL AREAS, WESTERN JAPAN, OSAKA STORE
ALL AREAS, WESTERN JAPAN, HIROSHIMA STORE

FIG. 13

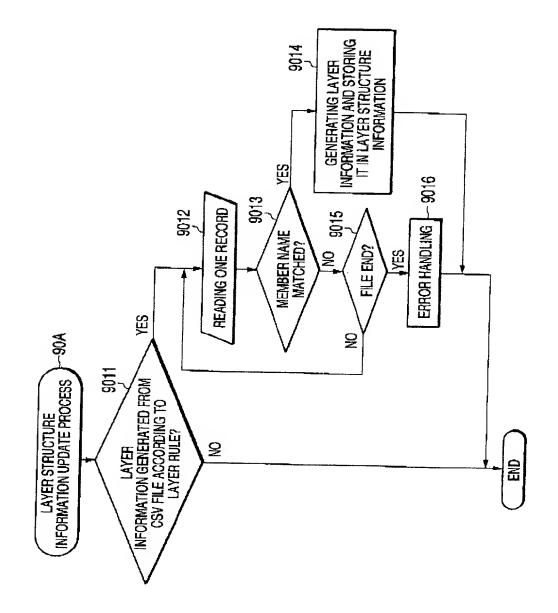
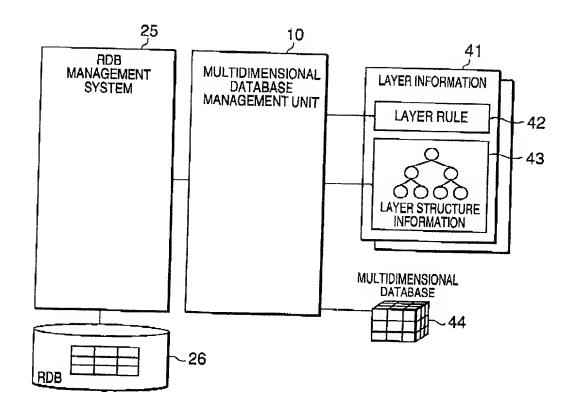


FIG.14



3130

MERCHANDISE DIMENSIONAL LAYER RULE DEFINITION DATA

#LAYER RULE : RDB PRODUCT MASTER LIST

#OBTAINING FROM COL1,COL2

FROM RDB PRODUCT MASTER LIST

LEVEL 0=SMALL CLASSIFICATION

LEVEL 1=LARGE CLASSIFICATION

LEVEL 2="ALL MERCHANDISE"

FIG.16

CONTENT OF RDB PRODUCT MASTER TABLE

LARGE CLASSIFICATION	SMALL CLASSIFICATION
HOME APPLIANCE HOME APPLIANCE AV AV COMPUTERS	WASHERS REFRIGERATORS TVs VIDEOS PCs

261

FIG.17

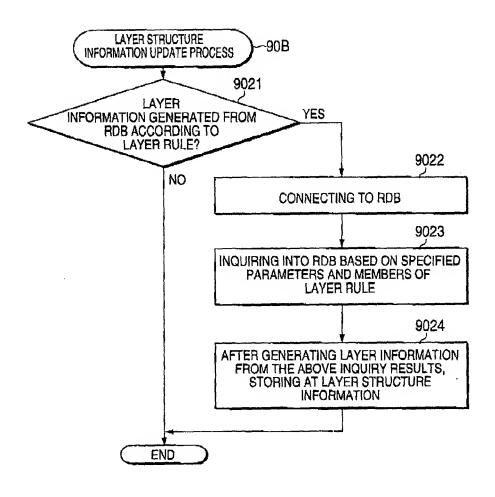


FIG.18

		4310
TIME DIMEN (WITHOUT L	NSION LAYER STRUCTURE INFOR	MATION)
		4302
	DRE DIMENSION	
LEVEL 2	(ALL AI	REAS
LEVEL 1	EASTERN JAPAN	WESTERN JAPAN
LEVEL 0	CHIBA STORE (SAITAMA STORE)	OSAKA STORE (HROSHIMASTORE)
		4303
LEVEL 2	ALL MERC	HANDISES)
LEVEL 1	HOME APPLIANCE	AV
LEVEL 0	WASHERS REFRIGERATORS	TVS VIDEOS
	4	304
UNIT DIMEN	ISION(WITHOUT LAYER)	
LEVEL 0	SALES UNIT SALES AMOUNT	

FIG.19

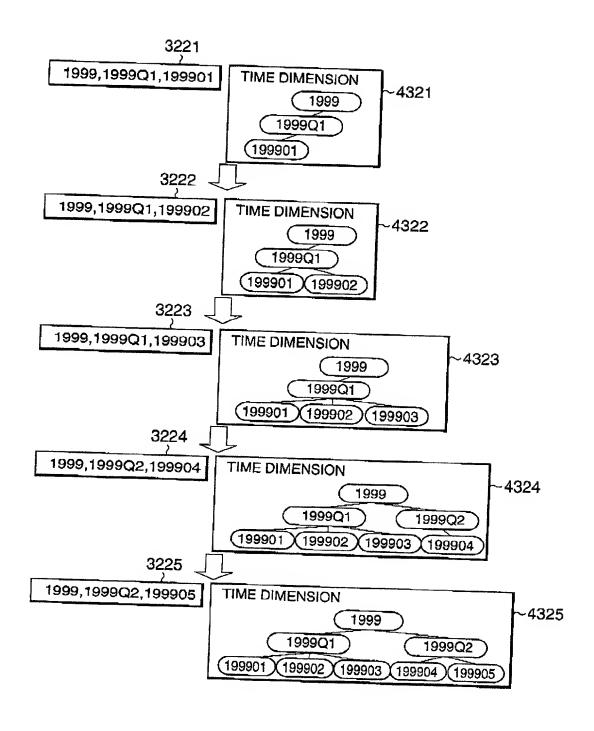


FIG.20 PRIOR ART

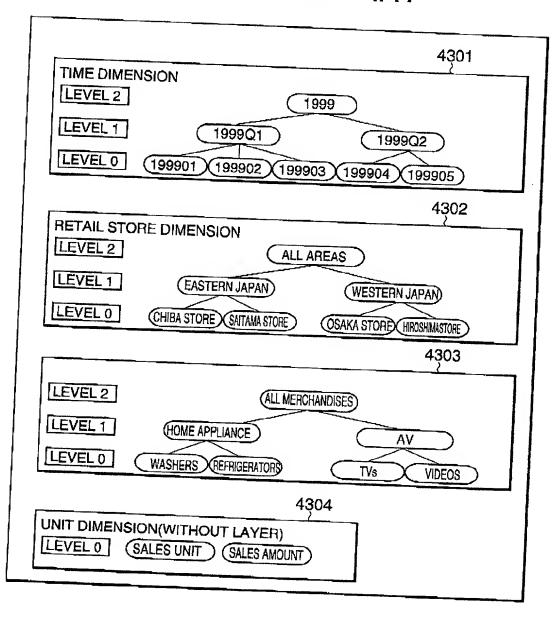


FIG.21 PRIOR ART

3201 TIME DIMENSIONAL 1999,1999Q1,199901 LAYER STRUCTURE 1999,1999Q1,199902 **DEFINITION DATA** 1999,1999Q1,199903 1999,1999Q2,199904 1999,1999Q2,199905 3202 RETAIL STORE ALL AREAS, EASTERN JAPAN, CHIBA STORE DIMENSIONAL ALL AREAS, EASTERN JAPAN, SAITAMA STORE LAYER STRUCTURE **DEFINITION DATA** ALL AREAS, WESTERN JAPAN, OSAKA STORE ALL AREAS, WESTERN JAPAN, HIROSHIMA STORE 3203 **MERCHANDISE** ALL MERCHANDISES, HOME APPLIANCE, DIMENSIONAL LAYER STRUCTURE **WASHERS** ALL MERCHANDISES, HOME APPLIANCE, REFRIGERATORS ALL MERCHANDISES, AV, TVs **DEFINITION DATA** ALL MERCHANDISES, AV, VIDEOS 3204 UNIT DIMENSION SALES UNIT LAYER STRUCTURE SALES AMOUNT DEFINITION DATA

FIG.22 PRIOR ART

3301

199901, SAITAMA STORE, 199901, OSAKA STORE, 199902, HIROSHIMA STORE, 199902, SAITAMA STORE, 199903, CHIBA STORE,	WASHERS, VIDEOS,	15, 42, 21, 33,	2420000 1350000 2940000 1680000 2310000
199904, HIROSHIMA STORE	REFRIGERATORS,	18,	1620000
199905, CHIBA STORE,	TVs,	45,	4950000

FIG.23 PRIOR ART

ON SALES AMOUNT 199901 199901 199904 199904 199900 1100000 1320000 11000000 11000000 1100000 1100000 1100000 1100000 1100000 1100000	MERCHANDISE	IERCHANDISE DIMENSION	TVS						
199901 199902 199903 199904 199904 190000 330000 660000 2640000 1760000 1760000 11000000 11000000 1100000 1100000 1100000 1100000 1100000 1100000	UNIT DIMENSIC	5	SALES AM	OUNT					
199901 199902 199903 199904 1100000 330000 770000 2200000 1100000 2090000 1320000 1430000 2640000 1760000 1100000 1100000 1100000 1100000 1100000 1430000 165000 2200000 5280000 1210000 3520000 297000 3630000 1012000 297000	TIME DIMENSION								
199901 199902 199903 199904 1100000 330000 770000 2200000 1100000 2090000 1320000 143000 264000 660000 1100000 110000 110000 110000 110000 110000 110000 110000 143000 165000 220000 1210000 352000 297000 363000 1012000									1000
199901 199902 199903 199904 1100000 330000 770000 2200000 1100000 2090000 1320000 1430000 1760000 1760000 1100000 1100000 1100000 110000 110000 1430000 1650000 2200000 5280000 1210000 3520000 2970000 3630000 1012000 2970000	RETAIL STORE	1			1999901				888
1100000 330000 77000 2200000 110000 990000 990000 66000 264000 110000 2090000 132000 143000 484000 176000 110000 110000 110000 110000 110000 33000 55000 110000 198000 110000 143000 165000 220000 528000 121000 352000 297000 363000 1012000 297000	DIMENSION		199902	199903	2000	100001	100005	1999902	
990000 990000 660000 2640000 1100000 1100000 1320000 1430000 4840000 1760000 1100000 1100000 1100000 110000 1430000 165000 220000 528000 382000 297000 363000 1012000	CHIBASTORE	1100000	33000	770000	200000	10000			
20000 99000 66000 264000 66000 209000 132000 143000 484000 176000 110000 110000 110000 11000 11000 33000 55000 110000 19800 110000 143000 165000 220000 528000 121000 352000 297000 363000 1012000 297000	SATTAMA STORE	000000	00000	0000	740000	1100000	000099	1760000	396000
2090000 1320000 1430000 4840000 1760000 1100000 1100000 1100000 110000 110000 330000 550000 1100000 198000 110000 1430000 165000 220000 528000 121000 3520000 297000 363000 1012000 297000	STATE OF STA	20000	200088	900099	2640000	GROOM	00000	00000	00000
1100000 1100000 1100000 3300000 1760000 1100000 3300000 1100000 1100000 1980000 1100000 1430000 1650000 2200000 5280000 1210000 3520000 2970000 3630000 10120000 2970000	ASTERN JAPAN	2090000	130000	A A DOCOCA	200	20000	000088	0000001	4290000
1700000 1100000 1100000 110000 110000 110000 110000 110000 11000000 11000000 11000000 11000000 11000000 11000000 11000000 11000000 11000000 11000000 11	An sty 1 means		102000	1430000	4840000	1760000	1650000	341000	OUEDOOD
330000 550000 1100000 1980000 1100000 1430000 1650000 2200000 5280000 1210000 3520000 2970000 3630000 10120000 2970000	CONTROLLER	_	1100000	1100000	330000	44000		NOO! LO	0000000
1430000 1650000 2200000 5280000 1210000 3520000 2970000 3630000 10120000 2970000	HOSE ASTOR		550000	40000	00000	000011	000088	1100000	4400000
3520000 2970000 3630000 10120000 2970000	_		00000	00000	1980000	1100000	990000	1750000	9740000
3520000 2970000 3630000 10120000 Paranan		1430000	1650000	2200000	5280000	1910000	00000	2000	3740000
202000		3520000	297000	0000000		12.10000	nnncoi	2880000	8140000
0000167			2000	2020000	10120000	2970000	3300000	6270000	1639000

FIG.24 PRIOR ART

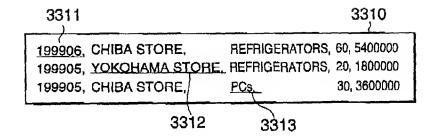
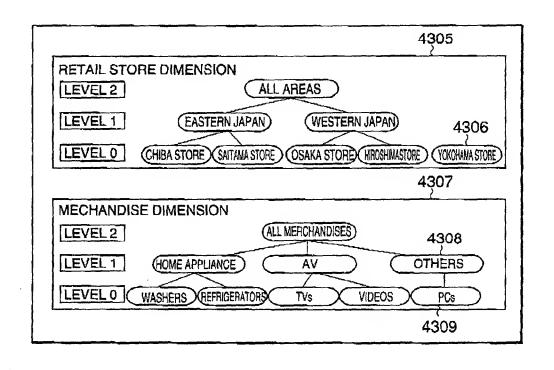


FIG.25 PRIOR ART



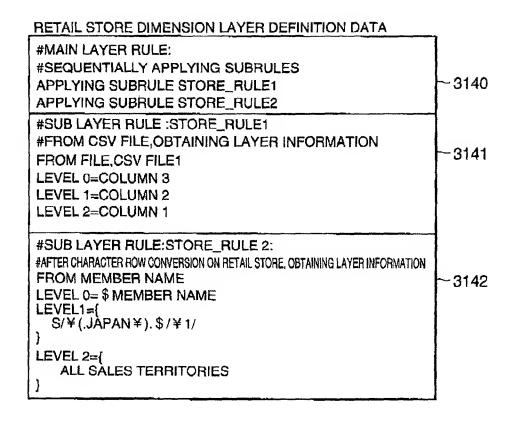


FIG.27

3340

199901, EASTERN JAPAN SAPPORO STORE, TVS,17, 1870000 199902, HIROSHIMA STORE, VIDEOS, 42, 2940000 199903, EASTERN JAPAN SAPPORO STORE, REFRIGERATOR,15,1350000

FIG.28

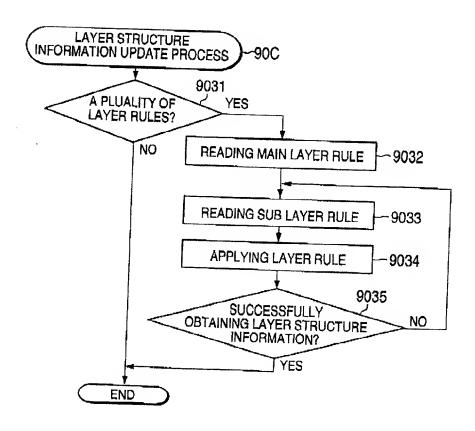


FIG.29

